

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2008; month=4; day=16; hr=18; min=52; sec=43; ms=282;]

=====

Application No: 10511037 Version No: 1.1

Input Set:

Output Set:

Started: 2008-04-16 18:51:03.605
Finished: 2008-04-16 18:51:03.782
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 177 ms
Total Warnings: 0
Total Errors: 0
No. of SeqIDs Defined: 4
Actual SeqID Count: 4

SEQUENCE LISTING

<110> DEBATIN, KLAUS
FULDA, SIMONE

<120> SMAC-PEPTIDES AS THERAPEUTICS AGAINST CANCER AND AUTOIMMUNE
DISEASES

<130> 085449-0152

<140> 10511037
<141> 2005-01-19

<150> PCT/EP03/04039
<151> 2003-04-17

<150> EP 02015499.3
<151> 2002-07-12

<150> EP 02008199.8
<151> 2002-04-17

<160> 4

<170> PatentIn version 3.4

<210> 1
<211> 239
<212> PRT
<213> Homo sapiens

<400> 1

Met Ala Ala Leu Lys Ser Trp Leu Ser Arg Ser Val Thr Ser Phe Phe
1 5 10 15

Arg Tyr Arg Gln Cys Leu Cys Val Pro Val Val Ala Asn Phe Lys Lys
20 25 30

Arg Cys Phe Ser Glu Leu Ile Arg Pro Trp His Lys Thr Val Thr Ile
35 40 45

Gly Phe Gly Val Thr Leu Cys Ala Val Pro Ile Ala Gln Lys Ser Glu
50 55 60

Pro His Ser Leu Ser Ser Glu Ala Leu Met Arg Arg Ala Val Ser Leu
65 70 75 80

Val Thr Asp Ser Thr Ser Thr Phe Leu Ser Gln Thr Thr Tyr Ala Leu
85 90 95

Ile Glu Ala Ile Thr Glu Tyr Thr Lys Ala Val Tyr Thr Leu Thr Ser
100 105 110

Leu Tyr Arg Gln Tyr Thr Ser Leu Leu Gly Lys Met Asn Ser Glu Glu
115 120 125

Glu Asp Glu Val Trp Gln Val Ile Ile Gly Ala Arg Ala Glu Met Thr
130 135 140

Ser Lys His Gln Glu Tyr Leu Lys Leu Glu Thr Thr Trp Met Thr Ala
145 150 155 160

Val Gly Leu Ser Glu Met Ala Ala Glu Ala Ala Tyr Gln Thr Gly Ala
165 170 175

Asp Gln Ala Ser Ile Thr Ala Arg Asn His Ile Gln Leu Val Lys Leu
180 185 190

Gln Val Glu Glu Val His Gln Leu Ser Arg Lys Ala Glu Thr Lys Leu
195 200 205

Ala Glu Ala Gln Ile Glu Glu Leu Arg Gln Lys Thr Gln Glu Glu Gly
210 215 220

Glu Glu Arg Ala Glu Ser Glu Gln Glu Ala Tyr Leu Arg Glu Asp
225 230 235

<210> 2

<211> 1358

<212> DNA

<213> Homo sapiens

<400> 2

ggcgtccgca cgctgcacaa tggcggtctt gaagagttgg ctgtcgca gcttaacttc 60

attcttcagg tacagacagt gtttgtgtg tcctgtgtg gctaactta agaaggcggtg 120

tttctcagaa ttgataagac catggcacaa aactgtgacg attggcttg gagtaaccct 180

gtgtcggtt cctattgcac agaaatcaga gcctcattcc ctttagtagtg aagcattgat 240

gaggagagca gtgtcttgg taacagatag caccttacc tttctcttc agaccacata 300

tgcgttgatt gaagcttata ctgaatatac taaggctgtt tataccttaa cttctttta 360

ccgacaatat acaagttac ttggggaaaat gaattcagag gaggaagatg aagtgtggca 420

ggtgatcata ggagccagag ctgagatgac ttcaaaaacac caagagtact tgaagctgga 480

aaccacttgg atgactgcag ttggctttc agagatggca gcagaagctg catatcaaac	540
tggcgccagat caggcctcta taaccgccag gaatcacatt cagctggta aactgcaggt	600
ggaagaggtg caccagctc cccggaaagc agaaaccaag ctggcagaag cacagataga	660
agagctccgt cagaaaacac aggaggaagg ggaggagcgg gctgagtgg agcaggaggc	720
ctacctgcgt gaggattgag ggctgagca cactgcctg tctccccact cagtgggaa	780
agcagggggca gatgccaccc tgcccagggt tggcatgact gtctgtgcac cgagaagagg	840
cggcagggtcc tgccctggcc aatcaggcga gacgccttg ttagctgtga gtgcctcctg	900
tggtctcagg cttgcgtgg acctggttct tagcccttgg gcactgcacc ctgtttaaca	960
tttcacccca ctctgtacag ctgcttttac ccatttttt tacctcacac ccaaagcatt	1020
ttgcctacct gggtcagaga gaggagtctt tttgtcatg cccttaagtt cagcaactgt	1080
ttaacctgtt ttcaagtctta ttacgtcgt caaaaatgtat ttagtacttg ttccctctgt	1140
tggatgcca gttgtggcag ggggagggga acctgtccag tttgtacgt ttctttgtat	1200
gtatttctga tgtgttctct gatctgcccc cactgtcctg tgaggacagc tgaggccaag	1260
gagtgaaaaaa cctattacta ctaagagaag gggtgtcagag tgtttacctg gtgctctcaa	1320
caggacttaa catcaacagg acttaacaca gaaaaaaaa	1358

<210> 3
 <211> 86
 <212> PRT
 <213> Human immunodeficiency virus type 1

<400> 3

Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser			
1	5	10	15

Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Lys Lys Cys Cys Cys Phe			
20	25	30	

His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly			
35	40	45	

Arg Lys Lys Arg Arg Gln Arg Arg Pro Pro Gln Gly Ser Gln Thr			
50	55	60	

His Gln Val Ser Leu Ser Lys Gln Pro Thr Ser Gln Ser Arg Gly Asp			
65	70	75	80

Pro Thr Gly Pro Lys Glu

85

<210> 4
<211> 8932
<212> DNA
<213> Human immunodeficiency virus type 1

<400> 4
agctctctcg acgcaggact cggcttgcg aagcgcgcac ggcaagaggc gagggggcggc 60
gactggtgag tacgcacaaa attttgcata gcggaggcta gaaggagaga gatgggtgcg 120
agagcgtcag tattaagcgg gggagaattt gatcgatggg aaaaaattcg gttaaggcca 180
gggggaaaga aaaaatataa attaaaacat atagtatggg caagcaggga gctagaacga 240
ttcgcagtta atcctggcct gtagaaaca tcagaaggct gtagacaaat actgggacag 300
ctacaaccat cccttcagac aggtcagaa gaacttagat cattatataa tacatgtac 360
accctctatt gtgtgcata aaggatagag ataaaagaca ccaaggaagc tttagacaag 420
atagaggaag agcaaaacaa aagtaagaaa aaagcacagc aagcagcagc tgacacagga 480
cacagcagtc aggtcagcca aaattaccct atagtgacaa acatccaggc gcaaattggta 540
catcaggcca tatcacctag aactttaaat gcatggtaa aagtagtaga agagaaggct 600
ttcagccccag aagtaataacc catgtttca gcattatcag aaggagccac cccacaagat 660
ttaaacacca tgctaaacac agtggggggg catcaagcag ccatgcaaat gttaaaagag 720
accatcaatg aggaagctgc agaatggat agagtacatc cagtgcatac agggcctatt 780
gcaccaggcc agatgagaga accaaggggg agtgacatag caggaactac tagtaccctt 840
caggaacaaa taggatggat gacaataat ccacctatcc cagtaggaga aatttataaa 900
agatggataa tcctgggatt aaataaaata gtaagaatgt atagccctac cagcattctg 960
gacataagac aaggacccaa agaacctttt agagactatg tagaccgggtt ctataaaact 1020
ctaagagccg agcaagcttc acaggaggta aaaaattgga tgacagaaac cttgttggtc 1080
caaaatgcga acccagattt taagactatt ttaaaagcat tgggaccagc ggctacacta 1140
gaagaaatga tgacagcatg tcagggagta ggaggacccg gccataaggc aagagtttg 1200
gctgaagcaa tgagccaagt aacaaataca gctaccataa tgatgcagag aggcaatttt 1260
aggaacccaa gaaagatggt taagtgtttc aatttgtggca aagaaggggca cacagccaga 1320
aattgcaggc cccctaggaa aaagggtgtgt tggaaatgtg gaaaggaagg acacccaaatg 1380

aaagattgt a ctgagagaca ggctaatttt ttagggaga tctggccttc ctacaaggga 1440
aggccaggga attttcttca gaggcagacca gagccaacag ccccaccatt tcttcagac 1500
agaccagagc caacagcccc accagaagag agcttcaggt ctgggtaga gacaacaact 1560
ccccctcaga agcaggagcc gatagacaag gaactgtatc cttaacttc cctcagatca 1620
ctctttggca acgaccctc gtcacaataa agataggggg gcaactaaag gaagcttat 1680
tagatacagg agcagatgt acagtattag aagaaatgag tttgccagga agatggaaac 1740
caaaaatgat aggggaatt ggagggttttcaaaagtaag acagtatgtat cagataactca 1800
tagaaatctg tggacataaa gctataggt a cgtattatgtt aggacctaca cctgtcaaca 1860
taatttggaaag aaatctgttg actcagattt gttgcacttt aaattttccc attagcccta 1920
ttgagactgt accagtaaaa ttaaagccag gaatggatgg cccaaaagtt aaacaatggc 1980
cattgacaga agaaaaataa aaagcattag tagaaatttg tacagaaatg gaaaaggaaag 2040
ggaaaatttc aaaaattggg cctgagaatc catacaatac tccagtattt gccataaaga 2100
aaaaagacag tactaaatgg agaaaatttag tagattttag agaacttaat aagagaactc 2160
aagacttctg ggaagttcaa ttaggaatac cacatccgc agggtaaaa aagaaaaat 2220
cagtaacagt actggatgtg ggtgatgtcat attttcagt tcccttagat gaagacttca 2280
ggaagtatac tgcatttacc ataccttagta taaacaatga gacaccagg attagatatc 2340
agtacaatgt gcttcacag ggatggaaag gatcaccagc aatattccaa agtagcatga 2400
caaaaatctt agagcctttt aaaaaacaaa atccagacat agttatctat caatacatgg 2460
atgatttgt a tgttaggatct gacttagaaa tagggcagca tagaacaaaa atagaggagc 2520
tgagacaaca tctgttgagg tggggactta ccacaccaga caaaaacat cagaaagaac 2580
ctccattcct ttggatgggt tatgaactcc atcctgataa atggacagta cagcctatag 2640
tgctgccaga aaaagacagc tggactgtca atgacataca gaagttatgt gggaaattga 2700
attgggcaag tcagatttac ccagggatta aagtaaggca attatgtaaa ctcccttagag 2760
gaacccaaagc actaacagaa gtaataccac taacagaaga agcagagcta gaactggcag 2820
aaaacagaga gattctaaaa gaaccagtac atggagtgta ttatgaccca tcaaaagact 2880
taatagcaga aatacagaag caggggcaag gccaatggac atatcaaatt tatcaagagc 2940
cat taaaat tctgaaaaca ggaaaatatg caagaatgag gggtgcccac actaatgt 3000
taaaacaatt aacagaggca gtgcaaaaaaa taaccacaga aagcatagta atatggggaa 3060

agactcctaa atttaaacta cccatacaaa aggaaacatg ggaaacatgg tggacagagt 3120
attggcaagc cacctggatt cctgagtggg agtttgttaa tacccttctt ttagtgaat 3180
tatggtacca gtttagagaaa gaacccatag taggagcaga aaccttctat gtagatgggg 3240
cagctaacag ggagactaaa ttagaaaaag caggatatgt tactaacaaa ggaagacaaa 3300
aggttgtccc cctaactaac acaacaaatc agaaaactga gttacaagca atttatctag 3360
cttgcagga ttcaaggatta gaagtaaaca tagtaacaga ctcacaatat gcattaggaa 3420
tcattcaagc acaaccagat aaaagtgaat cagagttgt caatcaaata atagagcagt 3480
taataaaaaaa ggaaaaggc tatctggcat gggtaccagc acacaaagga attggaggaa 3540
atgaacaagt agataaattt gtcagtgtcg gaatcaggaa aatactattt ttagatggaa 3600
tagataaggc ccaagatgaa catgagaaaat atcacagtaa ttggagagca atggctagt 3660
attttaacct gccacctgta gtagcaaaag aaatagtagc cagctgtat aaatgtcagc 3720
taaaaggaga agccatgcat ggacaagtag actgttagtcc aggaatatgg caactagatt 3780
gtacacattt agaaggaaaa gttatcctgg tagcagttca tgttagccagt ggatataatag 3840
aagcagaagt tattccagca gaaacagggc aggaaacagc atatttctt taaaattag 3900
caggaagatg gccagtaaaa acaatacata cagacaatgg cagcaatttc accagtgcta 3960
cggttaaggc cgccctgttgg tgggcgggaa tcaagcagga atttggatt ccctacaatc 4020
ccccaaagtca aggagtagta gaatctatga ataaagaatt aaagaaaatt ataggacagg 4080
taagagatca ggctgaacat cttaagacag cagtacaat ggcagtattc atccacaatt 4140
ttaaaagaaa aggggggatt ggggggtaca gtgcagggga aagaatagta gacataatag 4200
caacagacat acaaactaaa gaattacaaa aacaaattac aaaaattcaa aattttcggg 4260
tttattacag ggacagcaga aatccactt ggaaaggacc agcaaagctc ctctggaaag 4320
gtgaaggggc agtagtaata caagataata gtgacataaa agtagtgcca agaagaaaag 4380
caaagatcat tagggattt ggaaaacaga tggcaggtga tgattgtgtg gcaagttagac 4440
aggatgagga tttagaacatg gaaaagttt gtaaaacacc atatgtatgt ttcagggaaa 4500
gctagggat ggtttatag acatcactat gaaagccctc atccaagaat aagttcagaa 4560
gtacacatcc cactagggta tgcttagattt gtaataacaa catattgggg tctgcataca 4620
ggagaaaagag actggcattt gggtcagggta gtctccatag aatggaggaa aaagagatat 4680
agcacacaag tagaccctga actagcagac caactaattc atctgttata ctttgactgt 4740
ttttcagact ctgctataag aaaggcctta ttaggacaca tagttagccc taggtgtgaa 4800

tatcaagcag gacataacaa ggtaggatct ctacaatact tggcactagc agcattaata 4860
acacccaaaaa agataaaagcc acctttgcct agtgttacga aactgacaga ggatagatgg 4920
aacaagcccc agaagaccaa gggccacaga gggagccaca caatgaatgg acactagagc 4980
tttagagga gcttaagaat gaagctgtt aacattttcc taggatttg ctccatggct 5040
tagggcaaca tatctatgaa acttatgggg atacttgggc aggagtggaa gccataataa 5100
gaattctgca acaactgctg tttatccatt ttcaaaaattt ggtgtcgaca tagcagaata 5160
ggcgttactc gacagaggag agcaagaaaat ggagccagta gatcctagac tagagccctg 5220
gaagcatcca ggaagt cagc ctaaaaactgc ttgtaccaat tgctattgtt aaaagtgtt 5280
ctttcattgc caagttgtt tcataacaaa agccttaggc atctcctatg gcaggaagaa 5340
gcggagacag cgacgaagac ctcccaagg cagtcagact catcaagttt ctctatcaaa 5400
gcagtaagta gtacatgtaa tgcaacctat acaaatacgat atagtagcat tagtagtagc 5460
aataataata gcaatagttg tgtggtccat agtaatcata gaatataggaa aaatattaag 5520
acaaagaaaa atagacaggt taattgatag actaatagaa agagcagaag acagtggcaa 5580
tgagagtgaa ggagaaatat cagcacttgt ggagatgggg gtggagatgg ggcaccatgc 5640
tccttggat gttgatgatc tgttagtgcta cagaaaaattt gtgggtcaca gtctattatg 5700
gggtacctgt gtggaaggaa gcaaccacca ctctatggt tgcatcgat gctaaagcat 5760
atgatacaga ggtacataat gttgggcca cacatgcctg tgtacccaca gaccccaacc 5820
cacaagaagt agtattggta aatgtgacag aaaattttaa catgtggaaa aatgacatgg 5880
tagaacagat gcatgaggat ataatcgat tatggatca aagcctaaag ccatgtgtaa 5940
aattaacccc actctgtgtt agttaaagt gcactgattt gaagaatgat actaatacca 6000
atagtagtag cgggagaatg ataatggaga aaggagagat aaaaaactgc tcttcaata 6060
tcagcacaag cataagaggt aaggtgcaga aagaatatgc attttttat aaacttgata 6120
taataccaaat agataatgat actaccagct atacgttgac aagttgtaac acctcagtca 6180
ttcacacaggc ctgtccaaag gtatccttg agccaattcc catacattat tgtccccgg 6240
ctggtttgc gattctaaaa tgaataata agacgttcaa tggAACAGGA ccatgtacaa 6300
atgtcagcac agtacaatgt acacatggaa ttaggccagt agtataact caactgctgt 6360
taaatggcag tctggcagaa gaagaggtag taatttagatc tgccaaatttc acagacaatg 6420
ctaaaaccat aatagtagacag ctgaaccaat ctgtagaaat taattgtaca agacccaaaca 6480

acaatacaag aaaaagtatc cgtatccaga gaggaccagg gagagcattt gttacaatag 6540
gaaaaatagg aaatatgaga caagcacatt gtaacattag tagagcaaaa tggataaca 6600
ctttaaaaca gatagatagc aaattaagag aacaatttgg aaataataaa acaataatct 6660
ttaaggcagtc cttaggaggg gacccagaaa ttgtaacgca cagtttaat tgtggagggg 6720
aattttcta ctgttaattca acacaactgt ttaatagtac ttggttaat agtacttgga 6780
gtactaaagg gtcaaataac actgaaggaa gtgacacaat caccctccca tgcagaataa 6840
aacaattat aaacatgtgg caggaagtag gaaaagcaat gtatgccct cccatcagt 6900
gacaattag atgttcatca aatattacag ggctgctatt aacaagagat ggtggtaata 6960
gcaacaatga gtccgagatc tttagacctg gaggaggaga tatgagggac aattggagaa 7020
gtgaattata taaatataaa gtagtaaaaa ttgaaccatt aggagtagca cccaccaagg 7080
caaagagaag agtggtgcaag agagaaaaaaaa gaggcgtgg aataggagct ttgttccttg 7140
ggttcttggg agcagcagga agcactatgg ggcgcgcgtc aatgacgctg acggtaacagg 7200
ccagacaatt attgtctggat atagtgcagc agcagaacaa tttgctgagg gctattgagg 7260
cgcaacagca tctgttgcaa ctcacagtct gggcatcaa gcagctccag gcaagaatcc 7320
tggctgtgga aagataccta aaggatcaac agctcctggg gatttgggt tgctctggaa 7380
aactcatttgc caccactgct gtgccttggaa atgctagttt gagaataaaa tctctggAAC 7440
agatttggaa taacatgacc tggatggagt gggacagaga aattaacaat tacacaagct 7500
taatacactc cttaaattgaa gaatcgcaaa accagcaaga aaagaatgaa caagaattat 7560
tggaaattaga taaatggca agtttggaa attggttaa cataacaaat tggctgtgg 7620
atataaaatt attcataatg atagtaggag gcttggtagg tttaagaata gttttgctg 7680
tactttctgt agtgaataga gttaggcagg gatattcacc attatcgttt cagaccacc 7740
tcccaatccc gaggggaccc gacaggcccc aaggaataga agaagaaggt ggagagagag 7800
acagagacag atccattcga tttagtgaacg gatccttagc acttatctgg gacgatctgc 7860
ggagcctgtg cctcttcagc taccaccgct tgagagactt actcttgatt gtaacgagga 7920
ttgtggaact tctggacgc aggggggtggg aagccctcaa atattgggg aatctccat 7980
agtattggag tcaggagcta aagaatagtgt ctgttagctt gctcaatgcc acagctatag 8040
cagtagctga ggggacagat agggttataag aagttagtaca agagagttt agagctattc 8100
gccacataacc tagaagaata agacaggcgt tggaaaggat tttgctataa gatgggtggc 8160
aagtggtcaa aaagttagtgtt ggttggatgg cctgctgtaa gggaaagaat gagacgagct 8220

gagccagcag cagatgggtt gggagcagca tctcgagacc tagaaaaaca tggagcaatc 8280
acaagttagca acacagcagc taacaatgct gattgtgcct ggctagaagc acaagaggag 8340
gaggaggtgg gttttccagt cacacctag gtaccttaa gaccaatgac ttacaaggca 8400
gctgttagatc ttagccactt ttaaaagaa aaggggggac tggaagggct aattcactcc 8460
caacgaagac aagatatacct tgatctgtgg atctaccaca cacaaggcta ctccctgat 8520
tagcagaact acacaccagg gccagggatc agatatccac tgaccttgg atggtgctac 8580
aagctagtac cagttgagcc agagaagttt gaagaagcca acaaaggaga gaacaccagc 8640
ttgttacacc ctgtgagcct gcatggaatg gatgaccgg agagagaagt gtttagagtgg 8700
aggttgaca gccccttagc atttcatcac atggcccgag agctgcatcc ggagtacttc 8760
aagaactgct gacatcgagc ttgctacaag ggactttcg ctggggactt tccagggagg 8820
cgtggcctgg gcgggactgg ggagtggcga gcccctcagat cctgcatata agcagctgct 8880
ttttgcctgt actgggtctc tctggttaga ccagatctga gcctgggagc tc 8932